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## Demographic potential as the basis for social and economic development

### Abstract

The authors deal with the nature and importance of demographic socio-economic factors development, based on European standards. The authors determined the key components of the European strategy «Europe 2020», which is the basis of Ukrainian national programs and regional strategies of socio-economic development, including the Kharkiv region. The trends of economic and demographic processes in the region were outlined. It was given the characteristic of spatial distribution of population in Kharkiv region, which is demonstrated that intra-regional economic potential features correspond to the settlement system of the region. The method of calculation of demographic potential taking into account the qualitative and quantitative characteristics of the population and trends of its movement is presented.

The authors have calculated demographic potentials of the regions of Ukraine and identified the place of Kharkiv region among them. The general characteristics of the demographic potential of Kharkiv region is given and its territorial differentiation is determined with respect to the medium including key components and causation of social and economic development of cities and districts. It was also outlined the necessity of strategies and programs forming in view of the intraregional features.

**Keywords:** Demographic Potential; Socio-economic Development; Economic Potential; Regions of Ukraine; Kharkiv region

**JEL Classification:** R23, O15, J11, J19, C89

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### Демографічний потенціал як основа соціально-економічного розвитку

**Анотація.** У статті розглянуто сутність і значення демографічного фактору соціально-економічного розвитку, спираючись на загальноєвропейські стандарти. Виокремлено ключові складові Європейської стратегії «Europe 2020», які є основою національної Української програми та регіональних стратегій соціально-економічного розвитку, зокрема Харківського регіону. Окреслено тенденції економічних і геодемографічних процесів у регіоні. Охарактеризовано територіальний розподіл населення Харківського регіону та доведено, що внутрішньо регіональні особливості економічного потенціалу відповідають системі розселення регіону, яка є різко моноцентричною і має радіально-кільцевий тип опорного каркасу.

Запропоновано методикку обчислення демографічного потенціалу з урахуванням якісних та кількісних характеристик населення й тенденцій його руху. Обчислено демографічні потенціали регіонів України і нормовано їх до середнього, визначено місце області серед регіонів України. Оцінено демографічний потенціал Харківської області та визначено його територіальну диференціацію відносно середнього із зазначенням ключових складових і причинно-наслідкових зв'язків із соціально-економічним розвитком міст та районів. Підкреслено необхідність формування стратегії і програм розвитку з огляду на зазначені внутрішньорегіональні особливості.

**Ключові слова:** демографічний потенціал; соціально-економічний розвиток; економічний потенціал; регіони України; Харківська область.

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**Демографический потенциал как основа социально-экономического развития**

**Аннотация.** В статье рассмотрены сущность и значение демографического фактора социально-экономического развития, опираясь на общеевропейские стандарты. Выделены ключевые составляющие европейской стратегии «Европе 2020», которые являются основой национальной Украинской программы и региональных стратегий социально-экономического развития, в том числе Харьковского региона. Определены тенденции экономических и геодемографических процессов в регионе. Охарактеризовано территориальное распределение населения Харьковского региона и доказано, что внутрирегиональные особенности экономического потенциала соответствуют системе расселения региона, которая является резко моноцентрической и имеет радиально-кольцевой тип опорного каркаса.

Предложена методика определения демографического потенциала с учетом качественных и количественных характеристик населения и тенденций его движения. Вычислены демографические потенциалы регионов Украины и выполнено их нормирование относительно среднего уровня, определено место области среди регионов страны. Оценен демографический потенциал Харьковской области и определена его территориальная дифференциация с указанием ключевых составляющих и причинно-следственных связей с социально-экономическим развитием городов и районов. Подчеркнута необходимость формирования стратегии и программ развития с учетом указанных внутрирегиональных особенностей.

**Ключевые слова:** демографический потенциал; социально-экономическое развитие; экономический потенциал; регионы Украины; Харьковская область.

**Introduction and Brief Literature Review.** The most important prerequisite for socio-economic, intellectual and political development of the country and any region is the demographic factor as a separate component of its foundation. The changing role of demographic capital expenditure of turning it into the main productive and social factors that led to the need to develop a new paradigm of development in which human capital took the lead in the national wealth [1]. Understanding and choosing the demographic capital as the main factor of literally dictates systematic and comprehensive approach in developing strategies for regional development, local and regional socio-economic development.

Given the trend towards European integration, the study of certain social processes and phenomena, a strategy of regional development is impossible without regard to pan-European basis. This allows us to assess the impact of various factors and field scale factors that determine the current state and future dynamics of providing social and economic processes in the regional dimension. The most important lever of influence on Ukrainian society is the policy of the European Union, with which Ukraine has signed a long-term association agreement, under it requires focus on the basic principles and standards adopted by the Community. On the next programming period foreseen implementation of the EUROPE 2020 Strategy [1, 2, 3], the main priorities of which are reducing unemployment and increasing the level and quality of life of EU citizens. European Commission proposes five main activities that should be guided by European States: employment, education, poverty, research and innovation, climate change and energy [3]. European Strategy «Europe 2020» refers not only to the EU Member States, but also can be a guide for candidate countries and EU neighbors who can build its policy based on the proposed goals and objectives. In particular, given the complexity of approaches to European objectives underlying the Programme of Ukraine «Strategy 2020», which includes 60 special programs and reforms implementation of which including should contribute to increasing GDP per capita (up to 16 thousand dollars), improving the quality of education, including ensuring possession of two foreign languages at least three-quarters of high school graduates, life expectancy should rise for at least three years from the current rate, the share of local budgets in the consolidated budget of the country should be no less than 65%, the number of citizens satisfied with life should be 90% of the total population of Ukraine [4].

For the coordinated development of the state, a necessary component is the transformation of goals and objectives of European and national policies at the regional level of adaptation to a particular situation, because it is now necessary to ful-

fill the agreed programs. The development strategy of Kharkiv region up to 2020, urban development of the city of Kharkiv up to 2030 [5] define a key task of enrichment the demographic capital in the region, so the significance of this phenomenon is no doubt either in academics and in managers. Kharkiv region is one of the most numerous regions of Ukraine, it is a powerful scientific, economic and cultural center, the relevance of the study of its demographic potential is undeniable.

A number of aspects of theoretical and methodological foundations of research highlights the demographic potential in such works: O. Amosha, V. Antoniuk, G. Becker, W. Bowen, V. Heyets, E. Dzhensona, S. Dyatlova, J. Kendryka, E. Libanova, T. Schulz. Features of the socio-economic development were highlighted in numerous scientific researches of such scholars as M. Baranovskiy, V. Dorofiyenko, O. Grishnova, T. Zayets, A. Kolota, L. Kuzmenko, E. Libanova, K. Mezentsev, G. Pidhrushnyi, O. Topchiyev, B. Shelehedi. At the same time, is insufficiently developed scientific and methodical study of the relationship and interdependence of demographic and socio-economic potentials.

**Purpose** of the article is to determine the demographic potential as the basis of socio-economic development. Its implementation is reduced to the following tasks: to determine the nature and importance of the demographic component of socio-economic development, research and economic trends of demographic process of resettlement of the population of Kharkiv region, which is taken as an example in the study of territorial differentiation and its economic potential; to calculate demographic potential of the regions of Ukraine and to determine the location of Kharkiv region in it: to identify causal relationships between demographic and socio-economic potential in terms of cities and districts of Kharkiv region, which should serve as a basis for develop of management solutions for the formation of socio-economic development of local, district and regional levels.

**Results.** Kharkiv region is one of the leading regions of Ukraine. The region plays an important role in the economic, social and political life of the country. Kharkiv region is located in northeastern Ukraine has a peripheral position in relation to capital and geographical center of the country, border position (bordered with Russian Federation). The total area of Kharkiv region is 5.2% of the country, by this indicator region ranks fourth place among the regions of Ukraine. The modern economy of Kharkiv region is a very powerful economic complex, which in its industrial, scientific, technical and human capacity can be attributed to the largest in Ukraine. Kharkiv region is a major industrial center of Ukraine, which represents almost all economic activities. The specialization of the region in the field

of industry is engineering, construction materials, gas, light and food industry. The GDP of the region in 2012 accounted 6.1%, by this indicator Kharkiv region holds the 4th place. [6]. The region is characterized by a significant diversity of natural, economic, historical and geographical features which have a significant impact on the character and intra regional differentiation of social and economic potential.

The territorial structure of the economy reflects its spatial organization. The latter is largely determined by the characteristics of placing of economic potential. In this respect, Kharkiv region stands out among the other regions of the country due to the high concentration of territorial economic potential in Kharkiv against the background of its total variance in grassroots administrative districts of the region [7]. More than half of the economic potential of the region is concentrated in the city of Kharkiv, the other part of it is scattered by the districts. A relatively large proportion of the economic potential is observed in Balakliyskiy, Kharkiv and Lozivskiy districts (3 to 5%). In some districts – Pechenizskiy, Kolomakskiy, Zachepylivskiy the economic potential is less than 1%. As noted earlier, the regional economy of Kharkiv region is a relatively strong economic complex, which in its industrial, scientific and technical potential can be attributed to the largest in Ukraine [7]. However, within the region there is excessive concentration of economic potential in the city of Kharkiv (over 52%) and its dispersion in terms of grassroots 27 administrative districts, due to territorial characteristics of individual components of the economic potential. The above is generally consistent with the settlement system of the Kharkiv region, which is a monocentric and radial-ring type, more than half of the region's population (1.5 of 2.7 mln people) is concentrated in the regional center (Figure 1). Kharkiv region is one of the most densely populated regions of Ukraine, the population density is 87 persons/km<sup>2</sup> in the region as a whole and 33 inhabitants/km<sup>2</sup> excluding cities and city councils. Index of concentration of population in the region is 63.6%, indicating a sharply uneven settling of the population and its concentration in the great cities; the rural population is divided almost evenly, index of population concentration is 27.3%.

Accordingly, territorial differentiation of socio-economic potential reflects the features of the settlement. At the same time, the formation of socio-economic development that directly oriented to the available natural resources, labor resource, production, investment and other potentials, should take into account demographic potential, because it is clear that population is a major producer and consumer of all tangible and intangible goods and services. Therefore, developing of specific problems of social and economic development must be carried out taking into account the demographic characteristics that is a result and reflection of historical-geographical and socio-economic development, as well as an influential factor in social development.

As It has been noted, today Kharkiv region is one of the most densely populated regions and Ukraine. Kharkiv region is qualitatively different by demographic potential, including a powerful intellectual potential.

Overall, the demographic potential can be represented as:

$$D.p.=0,5(+0,5x),$$

where  $K_{bom}$  – natality,  $K_{mr}$  – mortality rate,  $K_{migr+}$  – intensity of arrival,  $K_{migr-}$  – departure intensity,  $K_{0-16}$  – age group < 16 years,  $K_{16-64}$  – age group 16-64 years,  $K_{64+}$  – age group > 65 years.

General estimating of demographic potential of Ukraine's regions (Figure 2), which contains the absolute value of the population on the basis of weight coefficients age groups and tendencies motion, Kharkiv region ranks the third place. If Kiev region considered together with the

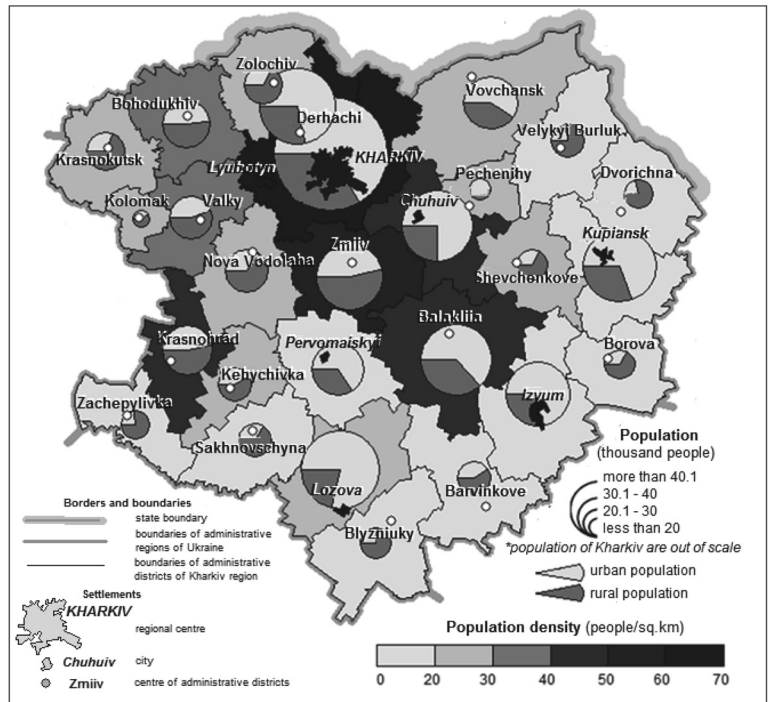


Fig. 1: Settling in Kharkiv region, 2013  
Source: Constructed according to [8]

city of Kyiv, the region will occupy the fourth place. Kharkiv region belongs to a group with a much higher demographic potential than average.

Demographic system of Kharkiv region is characterized by regressive type of age structure of the population and a significant advantage over the proportion of parents to proportion of children, with significant employment potential of its high quantitative and qualitative indicators. In the sex-age structure dominates the working age population, whose share is about 65%. The share of population of older group is 22.2%, the youngest group is the smallest and its share is 12.9%. A low load of kids and share of this cohort in the general population structure will not provide a simple replacement of generations. There is a significant difference in demographic development of urban and rural areas of Kharkiv region, in particular the degree of regressive age structure is much higher in rural areas than in urban areas. These issues require further research.

Demographic processes in the region are characterized by negative values with the positive trends: increased fertility (9.9%) and reducing of the mortality rate (14.5%). At the same



Fig. 2: Demographic potential of the regions of Ukraine, 2013  
Source: Calculated and constructed according to [9]



time, the natural increase of population is the most vulnerable link in the demographic system of Kharkiv region. Instead of this, Kharkiv region is characterized by positive net migration, which in 2012 was able to reverse the depopulation volumes: the first time since independence of Ukraine has been fixed the population growth. Kharkiv region is one of the most attractive for migration. In 2013, net migration in Kharkiv region was one of the highest in Ukraine and three times higher than national rate. The positive trend of demographic movement is the age structure of migrants: the largest number of arrivals at the age of 15-19 years, indicating the migration of young people for study. The latter definition is confirmed by the fact that the largest number of departures is noted at the age of 20-24 years, indicating a graduation and departure from the region. However, the share of those who left the region about 1,000 people less than arrived; population of the region is supplemented by persons of childbearing age. Migration activity of other age groups is much lower [10]. In the region intraregional migration is prevailing. Over research period the most attractive for migrants among the districts of Kharkiv region were Kharkiv district, the city of Kharkiv and geographically close to it districts. The predominant is population movement from rural areas to urban, which in turn affects on the potential increase of labor force in cities and its decline in rural areas.

There is considerable territorial differentiation of demographic potential within the region, particularly in the context of cities and regions (Figure 3). In the Kharkiv region the highest value of demographic potential is observed in the city of Kharkiv, Dergachivskiy and Chuguevskiy districts. As noted, the regional center concentrates more than half of the population and economic potential.

Above average the demographic potential is observed in Kharkiv, Zmieviskiy and Valkivskiy districts, the cities Lyubotin and Chuhuiv. Indicators that is similar to the average for the region is observed in municipalities and regions mainly in the west and north of the region.

The lower values of demographic potential in peripheral districts and districts of city councils, joint development in the following areas is the predominance of rural type of settlement and rural way of life [10].

The lowest rate in Kolomakskiy, Blyznyukivskiy and Barvinkivskiy districts, all indicators of demographic development are depressed. In these districts, there is one of the smallest particles of the working population, high demographic load, high mortality and low fertility.

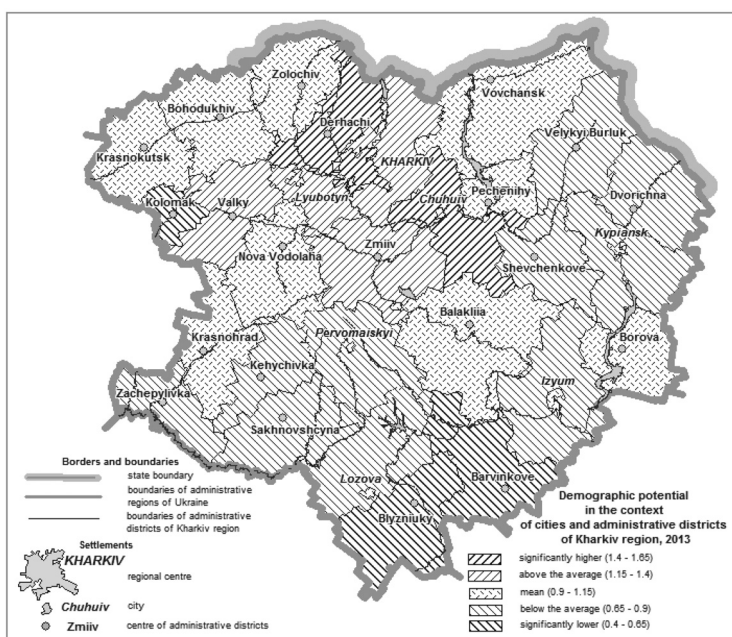


Fig. 3: Demographic potential of the cities and districts of Kharkiv region, 2013  
Source: Calculated and constructed according to [8]

**Conclusions.** The basis of the demographic potential is the structure of the population, especially for its formation correspond demographic trends. An implementation of strategic management of demographic development in Kharkiv region should help to address the key challenges of socio-economic development of the Kharkiv region. In Kharkiv region is the objective conditions for an active state science and technology policy: there are significant demographic potential, a strong potential functions of academic, university and industry science, technical and production potential of many leading companies, including high-tech industries in the industrial complex that allows to produce and to deliver competitive products. However, there is considerable differentiation of demographic and socio-economic potential, respectively, in forming strategies and programs should be given into attention these features. Nowadays an important issue for the region is the forced migration from Donbas, which raises many economic and social questions. This issue requires urgent investigation and regulation of local and regional budgets.

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